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ABSTRACT

Designed for educators requesting information from ERIC and for the search intermediary who channels educators' requests to a search service, this updated guide explains in non-technical language the steps involved in preparing a computer search for the ERIC database. A beginning section on how to initiate a search discusses the choice of a database and whether to use a manual or computer search. A discussion of the search negotiation process covers the type of search and problem definition. The process of developing a search strategy is also examined, including access points to ERIC materials; using the Thesaurus of ERIC Descriptors; indexing rules, including use of major descriptors and identifiers, indexing specificity, and educational levels; and indexable elements, i.e., population concepts, activities/action and methodology/materials concepts, curriculum concepts, identifiers, and document form/type concepts. Five appendices list the ERIC Clearinghouses with contact information, databases of interest to educators, publication types and codes, and educational level descriptors, and provide forms for ordering ERIC documents and reprints of journal articles. A glossary and a 42-item bibliography are included. (LMM)

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HOW TO PREPARE FOR A COMPUTER SEARCH OF ERIC

A NON-TECHNICAL APPROACH

Revised and updated by
Marilyn R. Laubacher

The original publication was prepared
for the Clearinghouse on Information Resources
by Judith Yarborough and published in 1975.

ERIC Clearinghouse on Information Resources
Syracuse University
May 1983

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INTRODUCTION

Computer searching of the ERIC database has become widespread. A Cost and Usage Study of the Educational Resources Information Center (ERIC) System (ED 208 902), conducted by King Research in December 1981, estimated that 197,668 ERIC searches are performed annually, with approximately 60% being done for administrators, planners, teachers, trainers, and counselors. The number of online database search services providing access to citations from Resources in Education and the Current Index to Journals in Education, ERIC's two monthly indexes, has increased significantly in the past eight years. The first Survey of ERIC Data Base Search Services (1974) listed 122 search locations in the United States, 5 in Canada, and 1 in Sweden. The fourth and most current Directory of ERIC Search Services (March 1981) contains entries for 415 search locations in the United States and 42 foreign locations, primarily in Canada and Australia.

It is important that educators requesting information from ERIC become informed about the process of computerized retrieval and the ERIC database in order to improve the relevance and scope of their search results. Similarly, the search intermediary (usually a librarian) who channels a request from the educator to a search service must be aware of how a computer search is prepared so that he/she will be able to help with the process.

This updated edition is written with these two audiences in mind. It is not intended to be a tutorial for the sophisticated searcher who processes many searches a day; rather it is an attempt to describe in non-technical language the steps involved in preparing a computer search for ERIC.

One of few available resources designed specifically for use by the person requesting an ERIC search, the original edition of this guide was prepared by Judith Yarborough for the ERIC Clearinghouse on Information Resources in 1975.

Marilyn R. Laubacher
Syracuse, New York
May 1983

INITIATING A SEARCH

Choice of a Database

One of the first considerations is whether ERIC, the Educational Resources Information Center, is the most appropriate database in which to search for information on a particular topic. To make this decision, it is useful to know the subjects covered, types of materials included, when the database was started and number of entries to date, and accessibility of the primary materials located through the search.

Through its network of 16 Clearinghouses, ERIC collects materials in the field of education, covering the areas of adult, career, and vocational education; counseling and personnel services; educational management; elementary and early childhood education; handicapped and gifted children; higher education; information resources; junior colleges; languages and linguistics; reading and communications skills; rural education and small schools; science, mathematics, and environmental education; social studies/social science education; teacher education; tests, measurement, and evaluation; and urban education. (A list of Clearinghouses and their addresses appears as Appendix A.)

The materials consist of unpublished, noncopyrighted, "fugitive" documents such as research reports, conference papers and proceedings, and curriculum materials, which are announced monthly in Resources in Education (RIE), and journal articles, which are announced monthly in the Current Index to Journals in Education (CIJE). Since the ERIC system was started in 1966, more than 220,000 documents have been announced in RIE, and over 270,000 journal articles in CIJE. Approximately 95% of the documents cited in RIE are available on microfiche and may be read at one of over 700 ERIC microfiche collection sites, or ordered individually from the ERIC Document Reproduction Service (EDRS). Journal article reprints for about 65% of the titles from CIJE are available through University Microfilms International (UMI).

One way to determine whether ERIC is the appropriate database, particularly if the search intermediary is not familiar with its content, is to look up titles that might be of interest in a few issues of RIE and CIJE, or an ERIC bibliography.

If the search question is psychologically oriented, it might be better to choose the PSYCHINFO database, which covers materials in psychology and related disciplines in the behavioral sciences. If there are very technical aspects, the NTIS database offers reports of government funded research in the scientific and technical fields. (A more complete listing of alternative databases is found in Appendix B.) In some cases, searching more than one database may be desirable and/or necessary to provide all relevant materials on a particular topic.

Computer or Manual Search?

Having decided that ERIC is the appropriate database, one must then determine whether a computer search is the best approach. A search that is relatively simple to perform (e.g., specific writings of a particular author or

examination of a narrow topic such as "School Newspapers") can probably best be done manually (by hand). Using a computer in fact lessens the possibility of finding interesting material serendipitously. A computer search is desirable when the question is multifaceted and requires coordination of concepts. For example, the question "What is the effect of educational television on bilingual children of elementary school age?" has at least three facets: educational television, bilingualism, and elementary school children. A manual search would be very time consuming because it would involve sifting through many irrelevant titles under each individual facet. However, a computer could very quickly isolate those titles having something to do with all three of the facets.

A computer search is also useful when doing an in-depth retrospective literature review. If the topic were "tests and testing" and the requestor conducted a manual search to locate everything about the topic in ERIC, he/she would have to look through each annual volume of RIE and semi-annual volume of CIJE for titles listed under the ERIC subject headings (descriptors) "tests" and "testing" and then look up each associated resume to find more information. Then, since the ERIC system does not index specific items under their general heading, the requestor would also have to check items indexed under specific types of tests, such as Intelligence Tests, Occupational Tests, and Preschool Tests. This process would also be time consuming without a computer.

A computer can also be used effectively for "free text" searching. Free text searching, usually available on computer systems, allows searching of ERIC titles and abstracts for any word or phrase, whether or not it is in the controlled vocabulary of the ERIC Thesaurus. It can also be used to locate minor descriptors (not listed in the printed indexes) or identifiers (terms not suitable for or not yet included in the Thesaurus). A requestor who wants to know when a given word or concept begins to appear in the literature, or to examine the literature in depth for a given concept that is not yet represented by an ERIC descriptor, would probably find computer free text searching the best answer.

A computer search must be done to locate certain types of information about the documents that do not appear in the printed RIE index. Examples include the language in which the document is written, the level of government which sponsored it (local, state, federal, foreign, or international), the place where the document was written, and the educational level about which it is concerned (elementary, secondary, adult); the level is usually assigned as a minor descriptor. Information about the language of a journal article and type of publication (i.e., besides being a journal article, a certain item might also be a research report or opinion paper) is also available through the computer, but does not appear in the printed CIJE index.

SEARCH NEGOTIATION

Type of Search

After selection of the appropriate database(s) and search mode, the information need and search objective of the requestor must be determined. For example, the requestor might want (1) an indepth, comprehensive search that would retrieve all relevant items from the database(s) selected on a particular topic (high recall); (2) a high precision search, in which only items relevant to a specific question are retrieved; (3) a Brief-search, in which some relevant items are retrieved; or (4) a current awareness search, limited to the most recent materials on a topic.

The current awareness search, sometimes called Selective Dissemination of Information (SDI), establishes a profile of interest that is run periodically only on new additions to the database. SDI is carefully tailored to fit the requestor's needs and is supplied on a continuing basis.

Defining the Problem

The next step in setting up a search is carefully defining the problem or question. The process is ideally carried on face-to-face between the requestor and the searcher. If this cannot be accomplished, the telephone is the next best alternative. When personal or telephone contact is not possible, this phase is sometimes carried out by mail. However, relevancy of response can be low when a mailed request is processed at face value, unless the question has been very clearly stated.

The requestor is encouraged to describe the search topic in natural language and at some length. He/she is asked to state the question as clearly and concisely as possible and to tell what information is not wanted as well as what is needed, taking into account educational level, who will be using the information and how it will be used, the population about which information is desired, particular authorities in the field or institutions where work is being performed, sources already considered, and appropriate time frame (e.g., nothing prior to 1970). Often, in talking over the question with the searcher, the requestor is able to clarify and refine the topic considerably.

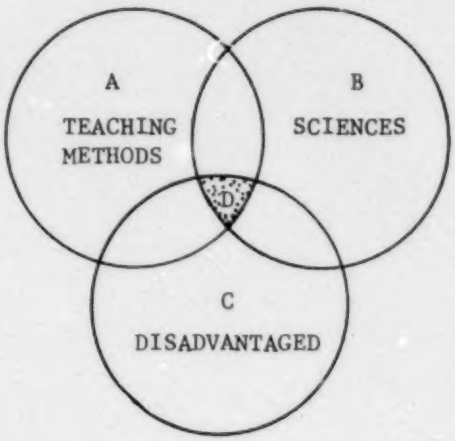
The requestor should take time to focus the question, to examine in depth what information is needed, and to determine what is already available. It helps to try to break the problem down into concepts; that is, to think in terms of the facets of the question rather than just the expected answer. For example, "What is the most effective method to teach mathematics to elementary school students who are bilingual?" is a better question than "What do I do with children who don't speak English?"

During this phase, it is important that the requestor be told what he/she can expect to receive and in what format. A computer search of ERIC results in an annotated bibliography of citations from both RIE and CIJE, unless only one is specified. Titles from RIE include bibliographic information such as author,

institution, sponsoring agency, availability, and descriptive notes; subject headings used to index the document; and a 200-word abstract. Titles from CIJE include author and journal citation; indexing terms; and a 50-word annotation. After examining the search results and deciding which titles are of interest, the requestor must find and read the primary materials. ERIC microfiche collection sites can be identified by contacting one of the ERIC Clearinghouses listed in Appendix A for a list, if the searcher does not know where the nearest collection is located. Individual titles may be ordered from EDRS in microfiche (MF) and/or paper copy (PC) form, if indicated in the search printout. The EDRS price codes found in the citation are translated in the back of a recent issue of RIE. Addresses are provided for those titles unavailable from EDRS. Journal articles should be located in a library collection, borrowed through interlibrary loan at a nearby library, or ordered through UMI. Order forms for EDRS and UMI are found in Appendix C.

DEVELOPING SEARCH STRATEGIES

The strategy used in computer searching is based on set theory. It is easier to break the search down into facets if one understands this concept. The Venn diagram below consists of three overlapping circles, A, B, and C, each representing a concept or facet of a search for information on methods for teaching science to the disadvantaged.



Circle A represents the set of ERIC materials indexed using the descriptor Teaching Methods, Circle B those indexed using Sciences, and Circle C the set which were indexed using Disadvantaged. The area of overlap for the three circles, D, represents those materials indexed using all three ERIC descriptors. A search for materials on methods for teaching science, not restricted to a particular group, could be done by simply combining sets A and B. Similarly, sets A and C could be combined to locate titles about methods for teaching the disadvantaged. All set combinations are based on the logical operators OR, AND, and NOT.

When performing a computer search, one is defining all the material included in each of the circles, which is called a "set." The search illustrated in the Venn diagram above could be expanded using the OR operator as follows: Set A (Circle A) could be increased to include material indexed using the ERIC descriptors Teaching Methods OR Teacher Effectiveness OR Educational Strategies. Set B (Circle B) could be expanded to include Sciences OR Science Instruction OR Science Curriculum, and Set C (Circle C) could be defined as Disadvantaged OR Disadvantaged Youth OR Economically Disadvantaged OR Educationally Disadvantaged OR Low Income Groups. After the sets have been defined, tne AND operator is used to refine the search by decreasing the total number of items and providing a set of titles indexed using descriptors common to two or more sets. For example, titles located in the search done by combining Set A AND Set B AND Set C (represented by overlap area D) would have to have at least one descriptor

assigned from each of the three sets. The NOT operator is used to eliminate titles indexed using particular descriptors from the search output.

These operations are performed rapidly by the computer and can save most of the time consumed in a manual search involving a large number of descriptors. Although the logical operations may be performed differently by the various computer systems, the method of breaking the search down into facets and defining the sets is the same from the requestor's viewpoint.

Access Points to ERIC Materials

An understanding of the various points of access provided to ERIC materials is useful to anyone preparing a search strategy. The ERIC index Resources in Education contains four indexes to document titles: Personal Author, Institution, Publication Type, and Subject. The first two ways are self-explanatory, the latter two may be unfamiliar. All documents are categorized by their "form" of publication (i.e., Publication Type or PUBTYPE). Thirty-five categories include such forms as bibliographies, teacher guides, descriptive reports, speeches, information analyses, and research reports. Up to three PUBTYPE code assignments are permitted for a single document to allow flexibility in classification. All appear in the Publication Type Index of RIE and may be searched online. (A list of these categories and their codes is found in Appendix D.)

The most common approach to ERIC material is by subject. The ERIC system uses a "controlled vocabulary" when assigning subject headings to (indexing) a document. These key words, known as descriptors in ERIC, are taken from the Thesaurus of ERIC Descriptors. Other terms reflecting the content of the document such as personal names, geographical locations, trade names, organizations, and new terminology, are called identifiers. They are not found in the Thesaurus; however, standard forms for entering the same name or concept are found in the Identifier Authority List.

The Current Index to Journals in Education contains three indexes to journal articles: Personal Author, Subject, and Journal Contents. The first two correspond to the same access points provided in RIE. The Journal Contents Index, which is found in the printed CIJE index, provides names of articles indexed from a particular issue of a journal, listed alphabetically by journal name. Although the Publication Type codes do not appear in the printed CIJE index, they are assigned to articles, and are available for online searching.

Using the Thesaurus of ERIC Descriptors

When the requestor and searcher both have a clear understanding of the topic to be searched and how it can be divided into concepts, or "sets," the Thesaurus of ERIC Descriptors should be used to identify appropriate subject headings using the following steps:

1. "Translate" your topic into ERIC descriptors (subject index terms). The Rotated Descriptor Display in the back of the Thesaurus may help you.

2. Look up the best descriptors in the Alphabetical Descriptor Display (the main part of the Thesaurus).

   a. Read the Scope Notes (SN) for information on how ERIC uses the terms.

   b. Check the Broader Terms (BTs), Narrower Terms (NTs), and Related Terms (RTs) under your descriptors and identify other possible descriptors relevant to your topic.

   c. Make a list of other descriptors that you might also use.

   d. Look up those descriptors and repeat steps 2a-c.

3. Make a final list of the descriptors most likely to have been used to represent your topic.

The introduction to the Thesaurus is clearly written and contains useful information and examples. It should be consulted for more specific assistance.

Identifiers and/or free text words and phrases should also be considered in defining the search topic.

Indexing Rules

Since most ERIC searching is done by subject, the rules governing assignment of descriptors and identifiers, taken from the ERIC Processing Manual, provide useful information to the requestor and the searcher. The following summary of significant indexing rules is from Section VII, pages 1 and 2:

1. Descriptors used in the indexing process must be in the Thesaurus of ERIC Descriptors.

2. The Identifier Field should be used to index specific entities, such as geographic location, project names, etc. Identifiers must be structured in conformance with the rules contained in Section VIII. Proposed Descriptors are entered in the Identifier field until approved and implemented in the Thesaurus.

3. The "major" subject matters of the document, whether expressed as Descriptors or Identifiers, must be asterisked (*) in order to distinguish them from the less substantial or "minor" topics. The following kinds of terms should be avoided as major, where possible:

   a. Excessively broad terms, which lack discrimination (e.g., DEVELOPMENT), and which might otherwise collect large numbers of postings in a single journal issue;

   b. Educational level, age level, methodology, or publication/document type terms, unless they are the subject of the document;

c. Multiple terms beginning with the same word, thereby causing unnecessary repetitive access in the manual indexes.

4. At least one (1) major descriptor must be assigned to a document; not more than five (5) major descriptors are permitted for each document (six if only one major identifier is used). There is, however, no upper limit on the total number of descriptors that can be used to index a given document; the average for RIE is around eleven (11) per document.

5. There is no minimum requirement for identifiers; no more than two (2) identifiers should be designated as major.

6. Index to the specific level of subject matter covered by the document. Do not automatically index "up" to higher generic levels than the document actually deals with. Do not automatically index "down" to all the sub-elements of the level dealt with.

7. Index in depth, or exhaustively, all significant concepts covered in the document.

8. Index the document and exposition in hand; avoid indexing implications, possible uses, and other aspects referred to, but not actually dealt with.

9. Index on the basis of the entire document, not just a part such as the "Introduction" or "Conclusions."

10. If a document is concerned with a particular educational (grade/academic) level, the indexer must index to that level.

11. Insofar as possible, index terms used should appear (in recognizable form) in the abstract (or title) of the document. This provides the user with a reassuring justification for the use of each index term for that particular item.

12. Index terms are written with initial capital letters. Except when used as the initial word, articles and connectives (prepositions and conjunctions) are not capitalized in a descriptor. Exceptions to this rule occur in certain identifiers, e.g., book titles such as "Graduate (The)."

13. Index terms are written without punctuation or special characters, with the sole exception being parentheses (to enclose a qualifier).

14. Over-indexing and under-indexing should be avoided. The excessive use of terms beginning with the same word can lead to over-indexing, as can the unrestrained listing of every concept contained in a small document. Under-indexing usually results from failure to assume the searcher's point of view.

Several of these rules need further elaboration in order to understand how they affect ERIC search strategy formulation: Rule #3, major descriptors and identifiers; Rule #6, indexing specificity; and Rule #10, educational levels.

Major descriptors and identifiers. Major descriptors and identifiers represent the main concepts contained in individual documents and journal articles. Titles in the printed RIE and CIJE subject indexes are listed only under the major descriptors and identifiers assigned to them as part of the indexing process. No more than five major descriptors (six if only one major identifier is used) and two major identifiers may be assigned per title. A set of descriptors and identifiers used in performing a computer search can be limited to instances where they have been designated as major subject headings. This will decrease the number of items in the set and insure that the remaining titles deal primarily with the concepts represented by the terms in the set.

Indexing specificity. ERIC guidelines call for indexing to "the specific level of subject matter" covered by the document or article in hand. In practice this means that an item about cable television would be indexed using the descriptor Cable Television and not the broader term Television. As with any rule there are exceptions: When the document or article discusses a concept at both a general and a specific level (e.g., intelligence tests in general and specific tests as well) in about equal detail; when the document or article discusses a specific concept, but the indexer thinks the document adds useful information to the body of knowledge about the general concept; or when the document or article discusses many specifics of a general concept, but none in sufficient detail to merit the indexing of each specific concept. Knowing this, the searcher must be careful to choose not only those broad terms that cover the topic but also the narrower terms that are included in the more general area. For instance, when the requestor is interested in Television, all of the specific kinds of television that may be of interest must also be specified if the search is to retrieve items which deal with these sub-sets specifically, i.e., Broadcast Television, Childrens Television, Cable Television, Closed Circuit Television, Commercial Television, Educational Television, Public Television.

Educational levels. There are 71 descriptors in the ERIC Thesaurus which can be used to identify the educational level being studied or toward which a document or article is directed, e.g., Adult Programs, Inservice Education, or Undergraduate Study (see Appendix E for complete list). Fourteen of these descriptors have been identified as subsuming several of the more specific terms, and one or more of the 14 must always be used to index the educational level when the document deals with such levels. This "mandatory" educational level descriptor procedure was implemented in February 1975, and is particularly useful for restricting the output of a computer search to the appropriate grade level. Since the level terms are usually assigned as minor descriptors (unless the level is the central focus of the document or article) titles do not appear under these descriptors in the printed subject indexes. The exceptions to the mandatory rule are instances where the level is incidental to the content and not specifically treated, or where any or all levels might apply equally. The mandatory educational

level descriptors, taken from the front of the Thesaurus of ERIC Descriptors, are listed below:

- EARLY CHILDHOOD EDUCATION
  Scope Note: Activities and/or experiences that are intended to effect developmental changes in children, from birth through the primary units of elementary school (grades K-3).

  - PRESCHOOL EDUCATION
    Scope Note: Activities and/or experiences that are intended to effect developmental changes in children, from birth to entrance in kindergarten (or grade 1 when kindergarten is not attended).

  - PRIMARY EDUCATION
    Scope Note: Education provided in kindergarten through grade 3.

- ELEMENTARY SECONDARY EDUCATION
  Scope Note: Formal education provided in kindergarten or grade 1 through grade 12.

  - ELEMENTARY EDUCATION
    Scope Note: Education provided in kindergarten or grade 1 through grade 6, 7, or 8.

    - ADULT BASIC EDUCATION
      Scope Note: Education provided for adults at the elementary level (through grade 8), usually with emphasis on communicative, computational, and social skills.

    - PRIMARY EDUCATION
      Scope Note: (See above.)

    - INTERMEDIATE GRADES
      Scope Note: Includes the middle and/or upper elementary grades, but usually 4, 5, and 6.

  - SECONDARY EDUCATION
    Scope Note: Education provided in grade 7, 8, or 9 through grade 12.

    - JUNIOR HIGH SCHOOLS
      Scope Note: Education provided in grades 7, 8, and 9--less commonly 7 and 8, or 8 and 9.

    - HIGH SCHOOLS (Changed from "Senior High Schools" in March 1980.)
      Scope Note: Providing formal education in grades 9 or 10 through 12.

●●● HIGH SCHOOL EQUIVALENCY PROGRAMS
Scope Note: Adult educational activities concerned with the preparation for and the taking of tests which lead to a high school equivalency certificate, e.g., General Educational Development program.

● POSTSECONDARY EDUCATION
Scope Note: All education beyond the secondary level--includes learning activities and experiences beyond the compulsory school attendance age, with the exception of adult basic education and high school equivalency programs. (Before Apr75, restricted to "education beyond grade 12 and less than the baccalaureate level.")

●● HIGHER EDUCATION
Scope Note: All education beyond the secondary level leading to a formal degree.

●● TWO YEAR COLLEGES (Changed from "Junior Colleges" in March 1980.)
Scope Note: Public or private postsecondary institutions providing at least 2, but less than 4, years of academic and/or occupational education.

Indexable Elements

Documents and articles in ERIC are indexed based on the following concept groups, as applicable:

- Population Concepts
- Activities/Action Concepts; Methodology/Materials Concepts
- Curriculum Concepts
- Identifiers
- Document Form/Type

Population concepts. These elements categorize and identify the group or individual studied by the document or intended as the users of the document. Most important to ERIC users are terms identifying the population's educational (grade/academic) level or age level. However, other categories which may be applicable are: Occupation; Race or Nationality; Religion; Intelligence or Ability Level; Physical or Emotional Characteristics; Socioeconomic Characteristics; Sex. Examples of some terms in the Thesaurus which represent these various population concepts follow:

Age - e.g.,

INFANTS	0 - 24 months
PRESCHOOL CHILDREN	2 - 5 years
YOUNG CHILDREN	0 - 8 years
CHILDREN	0 - 12 years
ADOLESCENTS	13 - 17 years

YOUNG ADULTS	18 - 30 years
ADULTS	Over 18 years
MIDDLE AGED ADULTS	45 - 64 years
OLDER ADULTS	Over 65 years

Occupation - e.g.,

ACCOUNTANTS
COOKS
COUNSELORS
LIBRARIANS
MEDICAL LABORATORY ASSISTANTS
OPTOMETRISTS
TEACHERS

Note: See also list of Narrower Terms under term OCCUPATIONS, and Descriptor Group "OCCUPATIONS."

Race/Nationality - e.g.,

AMERICAN INDIANS
ARABS
BLACKS
CHINESE AMERICANS
CUBANS
ESKIMOS
FILIPINO AMERICANS
HISPANIC AMERICANS
INDIANS
ITALIAN AMERICANS
JAPANESE AMERICANS
KOREAN AMERICANS
LATIN AMERICANS
MEXICAN AMERICANS
MEXICANS
NORTH AMERICANS
POLISH AMERICANS
PUERTO RICANS
SPANISH AMERICANS
WHITES

Religion - e.g.,

AMISH
CATHOLICS
CHRISTIANITY
ISLAMIC CULTURE
JEWS
JUDAISM
PROTESTANTS
PURITANS

Intelligence/Ability Level - e.g.,

ACADEMICALLY GIFTED
DEVELOPMENTAL DISABILITIES
HIGH ACHIEVEMENT
LEARNING DISABILITIES
ILLITERACY
MENTAL RETARDATION
SLOW LEARNERS
TALENT

Physical/Emotional Characteristics - e.g.,

AMPUTATIONS
BLINDNESS
DEAFNESS
HYPERACTIVITY
MENTAL DISORDERS
NEUROLOGICAL IMPAIRMENTS

DEAF BLIND
DOWNS SYNDROME
DRUG ADDICTION
EMOTIONAL DISTURBANCES
HOSTILITY
PARANOID BEHAVIOR
PERCEPTUAL HANDICAPS
PHYSICAL DISABILITIES
PSYCHOSIS
SCHIZOPHRENIA

Socioeconomic Characteristics - e.g.,

ADOPTED CHILDREN
ADVANTAGED
CRIMINALS
DELINQUENCY
ECONOMICALLY DISADVANTAGED
EDUCATIONALLY DISADVANTAGED
FOSTER CHILDREN
MIGRANTS
NOMADS
PRISONERS
REFUGEES

Sex - e.g.,

EMPLOYED WOMEN
FATHERS
FEMALES
MALES
MOTHERS

Activities/action and methodology/materials concepts. Such terms as Instruction, Testing, and Experiments describe activities or action concepts, while Language Laboratories, Objective Tests, Programed Instructional Materials, and Filmstrips describe methodology and materials concepts.

Curriculum concepts. This refers to the educational subject or concept that is being administered, taught, or measured. Examples are Arithmetic, History, Learning Disabilities, Reading, Spatial Ability, and the like.

Identifiers. Highly specific terms such as proper names of persons, organizations, or geographic locations, which are varied and often transient, are not usually appropriate for the Thesaurus. However, they can be highly useful access points and must be taken into account in the indexing process. The ERIC solution to this problem is the identifier field, a relatively "free" and open subject indexing field. Although they are not rigidly defined, structured, or controlled as are descriptors, identifiers are constructed using certain standards to avoid excessive scattering under different word forms and to aid retrieval. The proper format for all existing identifier concepts is found in the Identifier Authority List. Existing categories of identifiers are: conferences/meetings, curriculum areas, equipment (including computer programs), facilities, geographic locations, groups (ethnic, occupations, and other), health-related terms (including psychology), historical/special events, languages/linguistics, laws/legislation, methods/theories, miscellaneous, organizations, personal names, projects/programs, science and technology, tests/testing, titles (literature, films, etc.) Besides specific entities, identifiers may also consist of more general concepts that have been introduced in the literature but not yet added to the Thesaurus.

Document form/type concepts. Labeling of publication type or document characteristics, e.g., Annual Reports, Catalogs, or Newspapers, is done by

descriptor as well as publication type code (PUBTYPE). From 1966 to mid-1974 the only way to index the publication type concept was to use descriptors or identifiers. In mid-1974 the PUBTYPE code was initiated to supplement the RIE indexing and provide another means of restricting search output. There are twenty descriptors that are not used for indexing document form in the descriptor field, since they coincide exactly with names of PUBTYPE categories and would duplicate that field. These twenty terms carry the following note in the Thesaurus: "Corresponds to pubtype code __--Do not use except as the subject of a document." (This rule was implemented in mid-1979, when the coding scheme was changed.) A fairly comprehensive list of descriptors which can be used to identify publication type appears below. Those terms which correspond to a PUBTYPE code and are not to be used except as the subject of a document are asterisked.

ABSTRACTS
ADMINISTRATOR GUIDES
ANNOTATED BIBLIOGRAPHIES
ANNUAL REPORTS
ANSWER KEYS
ANSWER SHEETS
ANTHOLOGIES
ATLASES
AUDIODISC RECORDINGS
AUDIOTAPE RECORDINGS
*AUDIOVISUAL AIDS
AUTOBIOGRAPHIES
*BIBLIOGRAPHIES
BIOGRAPHICAL INVENTORIES
BIOGRAPHIES
BOOK REVIEWS
*BOOKS
BULLETINS
CARTOONS
CASE RECORDS
CASE STUDIES
CATALOGS
CHARTS
CHECK LISTS
CHILDRENS LITERATURE
CHRONICLES
CITATION INDEXES
CODES OF ETHICS
COMICS (PUBLICATIONS)
COMPUTER OUTPUT MICROFILM
COMPUTER PROGRAMS
*CONFERENCE PAPERS
*CONFERENCE PROCEEDINGS
CONTRACTS
COURSE DESCRIPTIONS
CURRICULUM GUIDES
DIAGRAMS
ENCYLOPEDIAS
ESSAYS
FACILITY GUIDELINES
FACULTY HANDBOOKS
FEASIBILITY STUDIES
FILMOGRAPHIES
FILMS
FILMSTRIPS
FLOW CHARTS
FOREIGN LANGUAGE BOOKS
FOREIGN LANGUAGE FILMS
FOREIGN LANGUAGE PERIODICALS
GAMES
GLOSSARIES
GRAPHS
GUIDELINES
*GUIDES
HEARINGS
ILLUSTRATIONS
INDEXES
INSTRUCTIONAL MATERIALS
INTERVIEWS
ITEM BANKS
KINESCOPE RECORDINGS
LABORATORY MANUALS
LARGE TYPE MATERIALS
LEADERS GUIDES
LEGISLATION
LESSON PLANS
LETTERS (CORRESPONDENCE)
LITERATURE REVIEWS
MAGNETIC TAPE CASSETTES
MAGNETIC TAPES
MAPS
MASTER PLANS
*MASTERS THESES
MATRICES

DIARIES
*DICTIONARIES
*DIRECTORIES
DISCOGRAPHIES
*DOCTORAL DISSERTATIONS
DOCUMENTARIES
DRAMA
EDITORIALS
PATENTS
PERIODICALS
PERMUTED INDEXES
PHOTOGRAPHS
POETRY
POSITION PAPERS
*PRACTICUM PAPERS
PROGRAM DESCRIPTIONS
PROGRAM EVALUATION
PROGRAM GUIDES
PROGRAM PROPOSALS
PUZZLES
QUESTIONNAIRES
RATING SCALES
RECORDS (FORMS)
*REFERENCE MATERIALS
*REPORTS
RESEARCH PROPOSALS
*RESEARCH REPORTS
RESOURCE MATERIALS
SCHOLARLY JOURNALS
SCHOOL NEWSPAPERS
SCHOOL PUBLICATIONS
SCRIPTS
*SERIALS
SHORT STORIES
MICROFORMS
MODELS
NEGOTIATION AGREEMENTS
NEWSLETTERS
NEWSPAPERS
NONPRINT MEDIA
OPINIONS
PAMPHLETS
SLIDES
SPECIFICATIONS
*SPEECHES
STANDARDS
STATE OF THE ART REVIEWS
*STATISTICAL DATA
STUDENT PUBLICATIONS
STUDY GUIDES
SURVEYS
TABLES (DATA)
TALKING BOOKS
TAPE RECORDINGS
TEACHING GUIDES
TEST REVIEWS
*TESTS
TEXTBOOKS
THESAURI
*THESES
VIDEODISC RECORDINGS
VIDEOTAPE RECORDINGS
*VOCABULARY
WORD LISTS
WORKBOOKS
WORKSHEETS
YEARBOOKS

Although it is useful to be able to limit titles in a search to teaching guides or evaluative reports, for example, searchers of ERIC need to be cautious when restricting their output by publication type code due to changes that have occurred in the codes and their assignment over time. One-letter codes (such as "L" for Bibliographies and "R" for Research Reports) were used for five years between mid-1974 and mid-1979. The publication type descriptors (such as Directories and Guides) were also used, even if they overlapped with the PUBTYPE code. Studies of ERIC Clearinghouse practice determined that the ability to assign only one code was inadequate and was causing inconsistent use, e.g., a conference paper might also be a research report or an opinion paper, and there was no order of priority in choosing the code. Consequently, in 1979 the codes were changed to 3-digit codes (see Appendix C) which were more specific, the use of certain publication type descriptors was restricted when they overlapped with the new PUBTYPE codes, up to three codes could be assigned per title, the codes were assigned to CIJE articles for the first time (a journal article can also be a research report, opinion paper, or

bibliography), a publication type index was added to the printed RIE index, and the ERIC computer tapes were changed to include the new codes.

However, in some categories it was difficult to make a one-to-one change from the 1-letter code to the 3-digit code on the computer tapes. For example, Research Reports, Technical Reports, and Studies, formerly coded "R," could be assigned several possible codes under the new system: 140 (General Reports), 141 (Descriptive Reports), 142 (Evaluative/Feasibility Reports), or 143 (Research/Technical Reports). Since there was no way of determining which new category applied without studying each individual title, all of the documents coded "R" between 1974 and 1979 were put into the new 140 category, General Reports.

Therefore, the searcher needs to be aware of certain things when limiting by PUBTYPE: any materials included prior to mid-1974 will be automatically eliminated, as will any journal articles included prior to mid-1979; titles included in RIE between 1974 and 1979 will include publication type descriptors as well as PUBTYPE codes, and many of them will be found under the general category headings for the PUBTYPE codes (e.g., General Guides, 050; General Reference Materials, 130; or General Reports, 140); and titles included in RIE and CIJE after mid-1979 can contain up to three PUBTYPE codes but will not include those publication type descriptors which correspond exactly to the PUBTYPE codes (see list on pages 14-15).

CONCLUSION

To someone new to ERIC searching, the first negotiation and search process may seem difficult and time consuming. However, learning to construct a computer search is something like learning to drive a car: the first few times there are so many things to remember that it seems impossible to concentrate on a destination. In a short time, however, the process becomes semi-automatic, allowing concentration on the desired results instead of on the steps necessary to reach those results.

To recap the steps in the process of computer searching the ERIC system:

1. Decide which database(s) is/are the most appropriate for a search on a particular topic.

2. Determine whether a computer or a manual search is the most effective way to approach the problem.

3. Decide how much information is needed.

4. Define the search question. First describe the topic in natural language, then break it down into concepts or facets.

5. Choose ERIC descriptors and identifiers and/or free text words and phrases to describe each facet of the search, keeping in mind the Boolean search logic to be used by the computer, ERIC indexing rules, and indexable elements of document and journal articles.

6. Find out what to expect as a result of the search, in what format it will be, and where to locate the primary materials cited.

ERIC Ready Reference #6

ERIC CLEARINGHOUSES *(and Other Network Components)*

The ERIC Clearinghouses have responsibility within the network for acquiring the significant educational literature within their particular areas, selecting the highest quality and most relevant material, processing (i.e., cataloging, indexing, abstracting) the selected items for input to the data base, and also for providing information analysis products and various user services based on the data base.

The exact number of Clearinghouses has fluctuated over time in response to the shifting needs of the educational community. There are currently 16 Clearinghouses. These are listed below, together with full addresses, telephone numbers, and brief scope notes describing the areas they cover.

ERIC Clearinghouse on *Adult, Career, and Vocational Education*
Ohio State University
National Center for Research in Vocational Education
1960 Kenny Road
Columbus, Ohio 43210
Telephone: (614) 486-3655

All levels of adult, career, and vocational and technical education. *Adult education*, including basic literacy training through professional skill upgrading; *career education*, including career awareness, instructional materials, teacher training, parent/community/business/industry involvement, experience-based education; and *vocational and technical education*, including new subprofessional fields, industrial arts, and vocational rehabilitation for the handicapped.

ERIC Clearinghouse on *Counseling and Personnel Services*
University of Michigan
School of Education Building, Room 2108
Ann Arbor, Michigan 48109
Telephone: (313) 764-9492

Preparation, practice, and supervision of counselors at all educational levels and in all settings; theoretical development of counseling and guidance; use and results of personnel procedures such as testing, interviewing, disseminating, and analyzing such information; group work and case work; nature of pupil, student, and adult characteristics; personnel workers and their relation to career planning, family consultations, and student orientation activities.

ERIC Clearinghouse on *Educational Management*
University of Oregon
Library, Room 108
Eugene, Oregon 97403
Telephone: (503) 686-5043

Leadership, management, and structure of public and private educational organizations; practice and theory of administration; preservice and inservice preparation of administrators; tasks and processes of administration; methods and varieties of organization; organizational change; and social context of the organization.

Sites, buildings, and equipment for education; planning, financing, constructing, renovating, equipping, maintaining, operating, insuring, utilizing, and evaluating educational facilities.

ERIC Clearinghouse on *Elementary and Early Childhood Education*
University of Illinois
College of Education
805 W. Pennsylvania Ave.
Urbana, Illinois 61801
Telephone: (217) 333-1386

Prenatal factors; parental behavior; the physical, psychological, social, educational, and cultural development of children from birth through the primary grades; education and learning theory; research and practice related to the development of young children. Includes teacher preparation, educational programs, and curriculum-related community services, as well as administration, instruction, and physical settings. Includes both the early years and childhood (ages 0-7), the "middle years" (ages 8-12), and early adolescence (ages 10-14).

ERIC Clearinghouse on *Handicapped and Gifted Children*
Council for Exceptional Children
920 Association Drive
Reston, Virginia 22091
Telephone: (703) 620-3660

Hearing impaired, visually impaired, mentally retarded, developmentally disabled, abused/neglected, autistic, multiply handicapped, severely handicapped, physically disabled, emotionally disturbed, speech handicapped, learning disabled, other health impaired, and the gifted and the talented; behavioral, psychomotor, and communication disorders; administration of special education services; preparation and continuing education of professional and paraprofessional personnel; preschool learning and development of the exceptional children; general studies on creativity.

ERIC Clearinghouse on *Higher Education*
George Washington University
One Dupont Circle, N.W., Suite 630
Washington, D.C. 20036
Telephone: (202) 296-2597

Various subjects relating to college and university students, college and university conditions and problems, college and university programs. Curricular and instructional problems and programs, faculty, institutional research. Federal programs, professional education (medicine, law, etc.), graduate education, university extension programs, teaching-learning, legal issues and legislation, planning, governance, finance, evaluation, interinstitutional arrangements, and management of institutions of higher education.

ERIC Clearinghouse on *Information Resources*
Syracuse University
School of Education
Huntington Hall
150 Marshall St.
Syracuse, New York 13210
Telephone: (315) 423-3640

Management, operation, and use of libraries; the technology to improve their operation and the education, training, and professional activities of librarians and information specialists. Education techniques involved in microteaching, systems analysis, and programmed instruction employing audiovisual teaching aids and technology, such as television, radio, computers, cable television, communication satellites, microforms, and public television.

ERIC Clearinghouse for *Junior Colleges*
University of California at Los Angeles
Mathematical Sciences Building, Room 8118
405 Hilgard Avenue
Los Angeles, California 90024
Telephone: (213) 825-3931

Development, administration, and evaluation of two-year public and private community and junior colleges. Junior college students, staff, curricula, programs, libraries, and community services.

ERIC Clearinghouse on *Languages and Linguistics*
Center for Applied Linguistics
3520 Prospect Street, N.W.
Washington, D.C. 20007
Telephone: (202) 298-9292

Languages and language sciences: theoretical and applied linguistics; all areas of foreign language and linguistics instruction, pedagogy and methodology; psycholinguistics and the psychology of language learning; cultural and intercultural context of languages; application of linguistics in language teaching; bilingualism and bilingual education; sociolinguistics; study abroad and international exchanges; teacher training and qualifications specific to the teaching of foreign languages; commonly and uncommonly taught languages including English as a second language; related curriculum developments and problems.

ERIC Clearinghouse on *Reading and Communication Skills*
National Council of Teachers of English
1111 Kenyon Road
Urbana, Illinois 61801
Telephone: (217) 328-3870

Reading, English, and communication skills (verbal and non-verbal), preschool through college. Educational research and development in reading, writing, speaking, and listening. Identification, diagnosis and remediation of reading problems. Speech communication — forensics, mass communication, interpersonal and small group interaction, interpretation, rhetorical and communication theory, instruction development, speech sciences, and theater. Preparation of instructional staff and related personnel in these areas.

All aspects of reading behavior with emphasis on physiology, psychology, sociology, and teaching. Instructional materials, curricula, tests and measurement, preparation of reading teachers and specialists, and methodology at all levels. Role of libraries and other agencies in fostering and guiding reading. Diagnostic and remedial services in school and clinical settings.

ERIC Clearinghouse on *Rural Education and Small Schools*
New Mexico State University
Box 3AP
Las Cruces, New Mexico 88003
Telephone: (505) 646-2623

Economic, cultural, social, or other factors related to educational programs for American Indians, Mexican Americans, migrants, and rural residents; outdoor education; educational programs in all small schools.

ERIC Clearinghouse for *Science, Mathematics, and Environmental Education*
Ohio State University
1200 Chambers Road, Room 310
Columbus, Ohio 43212
Telephone: (614) 422-6717

All levels of science, mathematics, and environmental education. Within these fields, development of curriculum and instructional materials; media applications; impact of interest, intelligence, values, and concept development upon learning; preservice and inservice teacher education and supervision.

ERIC Clearinghouse for *Social Studies/Social Science Education*
Social Science Education Consortium, Inc.
855 Broadway
Boulder, Colorado 80302
Telephone: (303) 492-8434

All levels of social studies and social science; content of disciplines; applications of learning theory, curriculum theory, child development theory, and instructional theory; research and development programs; special needs of student groups; education as a social science; history of education; comparative education; social studies/social science and the community; humanities education.

ERIC Clearinghouse on *Teacher Education*
American Association of Colleges for Teacher Education
One Dupont Circle, N.W., Suite 610
Washington, D.C. 20036
Telephone: (202) 293-2450

School personnel at all levels; all issues from selection through preservice and inservice preparation and training to retirement; curricula; educational theory and philosophy; educational personnel development not specifically covered by other clearinghouses. Selected aspects of physical education.

ERIC Clearinghouse on *Tests, Measurement, and Evaluation*
Educational Testing Service
Rosedale Road
Princeton, New Jersey 08541
Telephone: (609) 734-5176

Tests and other measurement devices; methodology of measurement and evaluation; application of tests, measurement, or evaluation in educational projects or programs; research design and methodology; human development; and learning theory in general.

ERIC Clearinghouse on *Urban Education*
Teachers College, Columbia University
Institute for Urban and Minority Education
525 W. 120th Street
New York, New York 10027
Telephone: (212) 678-3433

Programs and practices in public, parochial, and private schools in urban areas and the education of particular racial/ethnic minority children and youth in various settings; the theory and practice of educational equity; urban and minority experiences; and urban and minority social institutions and services.

Educational Resources Information Center
(Central ERIC)
National Institute of Education
Washington, D.C. 20208
Telephone: (202) 254-5500

ERIC Processing & Reference Facility
ORI, Inc., Information Systems Division
4833 Rugby Avenue, Suite 301
Bethesda, Maryland 20814
Telephone: (301) 656-9723

ERIC Document Reproduction Service
Computer Microfilm International Corporation (CMIC)
P.O. Box 190
Arlington, Virginia 22210
Telephone: (703) 841-1212

Oryx Press
2214 North Central at Encanto
Phoenix, Arizona 85004
Telephone: (602) 254-6156

APPENDIX B: DATABASES OF INTEREST TO EDUCATORS

Comprehensive Dissertation Index (CDI)

Coverage dates:	1861 to present
Number of citations:	801,000, with 32,000 added annually; over 120,000 education dissertations are listed (about 20% of the total)
Updates:	Monthly (online)
Print version:	Comprehensive Dissertation Index (with information also taken from Dissertation Abstracts International and American Doctoral Dissertations)
Thesaurus:	None
Producer:	University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106
Online vendors:	BRS, DIALOG, and SDC

Scope: A definitive subject, title, and author guide which cites approximately 99% of all American dissertations from over 700 degree-granting institutions, in all subject areas. Includes almost every American dissertation accepted at an accredited institution since 1861 (when academic doctoral degrees were first granted in the U.S.), many Canadian dissertations, and some papers accepted at institutions abroad.

Data Processing and Information Science Contents (DISC)

Coverage dates:	1982 to present
Number of citations:	4,000
Updates:	Biweekly, with 600 added monthly
Print version:	None
Thesaurus:	None
Producer:	Bibliographic Retrieval Services, 1200 Route 7, Latham, NY 12110
Online vendor:	BRS

Scope: Cover-to-cover indexing of 20 journals in microcomputing, with peripheral coverage of minicomputers, EDP, and information science. DISC provides access to tables-of-contents as well as feature articles, columns, product reviews, and pricing information.

Exceptional Child Education Resources (ECER)

Coverage dates:	1969 to present
Number of citations:	51,000 with 5,000 added annually
Updates:	Monthly (online)
Print version:	Exceptional Child Education Resources Index (quarterly)
Thesaurus:	Thesaurus of ERIC Descriptors

Producer: Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091

Online vendors: BRS and DIALOG

Scope: Published and unpublished literature on all aspects of the education of handicapped and gifted children, including books, program descriptions, curriculum guides, research reviews and reports, journal articles, monographs, dissertations, tests, and nonprint media for teacher use. (Approximately 50% of the materials in the ECER database are also found in the ERIC index.)

Foundation Directory

Coverage dates: Current year
Number of citations: 3,595
Updates: Semiannual
Print version: The Foundation Directory
Thesaurus: None
Producer: The Foundation Center, 888 Seventh Avenue, New York, NY 10106
Online vendor: DIALOG

Scope: Foundation profiles and scope of funding activities for nongovernmental foundations with assets of $1 million or more or which make grants of $100,000 or more annually; primarily in fields of education, health, welfare, sciences, international activities, and religion.

Foundation Grants Index

Coverage dates: 1973 to present
Number of citations: 100,613, with 20,000 added annually
Updates: Bimonthly
Print version: Foundation Grants Index (printed bimonthly in Foundation News)
Thesaurus: None
Producer: The Foundation Center, 888 Seventh Avenue, New York, NY 10106
Online vendor: DIALOG

Scope: Contains information on grants of more than $5,000 awarded by more than 400 major nongovernmental, nonprofit American philanthropic foundations, primarily in the fields of education, health, welfare, sciences, international activities, humanities, and religion (with education as the most favored field for foundation giving).

Grants

Coverage dates: Grants currently available and those with application deadlines in the forthcoming six months
Number of citations: 2,000+
Updates: Monthly (online)

Print version:	Grant Information System (quarterly) and Faculty Alert Bulletins (monthly, in six subject areas: Creative and Performing Arts, Education, Health, Humanities, Physical and Life Sciences, and Social Sciences)
Thesaurus:	None
Producer:	Compiled by Betty L. Wilson and William K. Wilson, published by Oryx Press, 2214 North Central at Encanto, Phoenix, AZ 85004
Online vendors:	DIALOG and SDC

Scope: GRANTS covers awards that are greater than $5,000 in all subject areas and that are available on a national or regional level from government, private foundations, associations, or organizations.

International Software Database

Coverage dates:	1983 (current offerings)
Number of citations:	10,000
Updates:	Monthly
Print version:	International Microcomputer Software Directory and International Minicomputer Software Directory
Thesaurus:	None
Producer:	Imprint Software, Ltd., 1520 South College, Fort Collins, CO 80524
Online vendor:	DIALOG

Scope: Lists commercially available software (computer programs) for any microcomputer or minicomputer; includes items of interest for the expert or the hobbyist on a wide range of topics.

Microcomputer Index

Coverage dates:	1980 to present
Number of citations:	13,000
Updates:	Quarterly
Print version:	Microcomputer Index
Thesaurus:	List of Controlled Vocabulary Terms Used in Microcomputer Index
Producer:	Microcomputer Information Services, 2464 El Camino Real, Suite 247, Santa Clara, CA 95051
Online vendor:	DIALOG

Scope: Subject and abstract guide to magazine articles from 40 microcomputer journals which includes general articles on microcomputing, book and software reviews, applications, and product descriptions.

National Information Center for Educational Media (NICEM)

Coverage dates:	1979 edition currently available
Number of citations:	331,000
Updates:	Completely reloaded every two years with irregular online updates in between
Print version:	NICEM Indexes to: 16mm Educational Films, 35mm Educational Filmstrips, Educational Overhead Transparencies, 8mm Motion Cartridges, Educational Video Tapes, Educational Audio Tapes, Educational Records, Educational Slides, Producers and Distributors, Psychology--Multimedia, Health and Safety Education--Multimedia, Vocational and Technical Education--Multimedia, Environmental Studies--Multimedia, Nonprint Special Education Materials--Multimedia (Learner Volume), and Nonprint Special Education Materials--Multimedia (Professional Volume). Updated every 2½ years.
Thesaurus:	NICEM Subject Headings
Producer:	National Information Center for Educational Media, University of Southern California, University Park, Los Angeles, CA 90007
Online vendor:	DIALOG

Scope: Complete coverage of nonprint educational materials (see list of titles above) from pre-school to professional and graduate school levels.

National Information Center for Special Education Materials/National Instructional Materials Information Center (NICSEM/NIMIS).

Coverage dates:	DIALOG: online from 1974-1977; BRS: online from 1977-1980 (NIMIS II)
Number of citations:	39,000 (1974-1977); 32,000 (1977-1980)
Updates:	None
Print version:	No printed equivalent to file, although NICSEM publishes: Master Index to Special Education Materials, Special Education Index to Learner Materials, Special Education Index to Parent Materials, Special Education Index to Assessment Materials, Special Education Index to In-Service Training Materials
Thesaurus:	NICSEM Special Education Thesaurus and Instructional Materials Thesaurus for Special Education
Producer:	National Information Center for Special Education Materials, 3716 South Hope Street, 2nd Floor, Los Angeles, CA 90007
Online vendors:	BRS and DIALOG

Scope: Media for handicapped or exceptional learners, in all subject areas, at all levels, including audiovisual materials and equipment, braille books, equipment and adaptive devices, and assessment instruments.

National Technical Information Service (NTIS)

Coverage dates:	1964 to present
Number of citations:	957,000
Updates:	Biweekly, with approximately 5,000 added monthly
Print version:	Government Reports Announcements and Index
Thesaurus:	Eight major thesauri used to index a variety of government-sponsored reports: 1) DDC Retrieval and Indexing Terminology, 2) Thesaurus of DDC Descriptors (1964-1973), 3) ERDA Subject Indexing and Retrieval Thesaurus, 4) INIS: Thesaurus (1973-1975), 5) Subject Headings Used by the USAEC Division of Technical Information (1964-1973), 6) NASA Thesaurus, Volumes I and II, 7) Thesaurus of ERIC Descriptors, and 8) Thesaurus of Engineering and Scientific Terms.
Producer:	National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161
Online vendors:	BRS, DIALOG, and SDC

Scope: Government-sponsored research, development, and engineering reports, foreign technical reports, and analyses prepared by national and local government agencies, their contractors or grantees. Includes material from hard and soft sciences.

PsycINFO (formerly Psychological Abstracts)

Coverage dates:	1967 to present (online)
Number of citations:	402,000, with 36,000 added annually
Updates:	Monthly (online)
Print version:	Psychological Abstracts (1927 to present)
Thesaurus:	Thesaurus of Psychological Index Terms
Producer:	Psychological Abstracts Information Service, American Psychological Association, 1400 North Uhle Street, Arlington, VA 22201
Online vendors:	BRS, DIALOG, and SDC

Scope: Approximately 100 periodicals and 1,500 books, technical reports, dissertations, and monographs are scanned each year to provide coverage of original research, reviews, discussion, theory, conference papers, panel discussions, case studies, and descriptions of the apparatus in the field of psychology and related disciplines in the behavioral sciences as well as education.

Resources in Computer Education (RICE)

Coverage dates:	1979 to present
Number of citations:	2,000, with 1,200-1,800 added yearly
Updates:	Bimonthly
Print version:	None

Thesaurus: Thesaurus of ERIC Descriptors
Producer: Northwest Regional Educational Laboratory, 300 S.W. Sixth Avenue, Portland, OR 97204
Online vendor: BRS

Scope: Information concerning the state of the art in elementary and secondary school computer applications, includes direct references to software packages and producers. Expansion in 1983 will include categories on computer literacy, with objectives and test items for education; Project Register, containing descriptions of school projects in K-12 computer applications; and Inventory, containing data on installation of hardware in schools.

School Practices Information File (SPIF)

Coverage dates: Project and products currently in operation or use
Number of citations: 12,000, with 500 added monthly
Updates: Bimonthly
Print version: None
Thesaurus: Thesaurus of ERIC Descriptors
Producer: Education Service Group, Bibliographic Retrieval Services, 1200 Route 7, Latham, NY 12110
Online vendor: BRS

Scope: Educational practices, programs, and materials currently in operation or use, including such things as Title IV-C and NDN projects.

Social Science Citation Index (SSCI)

Coverage dates: DIALOG: online from 1972 to present; BRS: online from 1978 to present, offline from 1972-1977
Number of citations: 1,177,000, with 10,000 added monthly
Updates: Monthly (online)
Print version: Social Science Citation Index (1969 to present; 3/year)
Thesaurus: None
Producer: Institute for Scientific Information (ISI), 3501 Market Street, University City Science Center, Philadelphia, PA 19104
Online vendors: BRS and DIALOG

Scope: A multidisciplinary database indexing every significant item from over 1,000 social sciences journals (including 155 educational research journals), selected articles from almost 3,000 additional journals in natural, physical, and biomedical sciences, and monographs. In addition to traditional retrieval by author, journal name, or title, the database provides the capability to search an author's cited references.

Sociological Abstracts

Coverage dates:	1963 to present (online)
Number of citations:	Approximately 127,000, with 7,500 added annually
Updates:	Quarterly (online)
Print version:	Sociological Abstracts (1953 to present)
Thesaurus:	Sociological Abstracts User's Reference Manual, "Authority File"
Producer:	Sociological Abstracts, P.O. Box 22206, San Diego, CA 92122
Online vendor:	DIALOG

Scope: Scans over 1,200 journals and other serial publications each year to provide coverage of the original research, reviews, discussions, monographic publications, conference reports, panel discussions, and case studies in the field of sociology and related disciplines in the social and behavioral sciences, including education.

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Education Index

Although it is not yet available for online searching, Education Index is an additional resource that is also of interest to educators. Begun in 1929, it provides comprehensive access by author and subject, and primarily covers the core education periodicals, although it also includes proceedings, yearbooks, bulletins, and monographs for a total of 312 titles. Education Index is published by the H. W. Wilson Company, 950 University Avenue, Bronx, NY 10452.

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The three main commercial suppliers of online computer retrieval are:

Bibliographic Retrieval Services (BRS)
1200 Route 7
Latham, NY 12110
(800) 833-4707 or (518) 783-1161

DIALOG Information Retrieval Service
3460 Hillview Avenue
Palo Alto, CA 94304
(800) 227-1960 or (800) 982-5838 in California

System Development Corporation (SDC)
2500 Colorado Avenue
Santa Monica, CA 90406
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APPENDIX D: PUBLICATION TYPES AND CODES

CODE	PUBLICATION/DOCUMENT TYPES
010	BOOKS
	COLLECTED WORKS
020	—General
021	--Conference Proceedings (See also 150)
022	--Serials
030	CREATIVE WORKS (Literature, Drama, Fine Arts)
	DISSERTATIONS/THESES
040	—Undetermined
041	--Doctoral Dissertations
042	—Masters Theses
043	—Practicum Papers
	GUIDES
050	—General
	--Classroom Use
051	--For Learner (Instructional Materials)
052	—For Teacher (Teaching Guides)
055	—Non Classroom Use (For Administrative and Support Staff, Teachers, Parents, Clergy, Researchers)
060	HISTORICAL MATERIALS
070	INFORMATION ANALYSES (Literature Reviews, State-of-the-Art Papers)
071	--ERIC Information Analysis Products
080	JOURNAL ARTICLES
090	LEGAL/LEGISLATIVE/REGULATORY MATERIALS
100	AUDIOVISUAL MATERIALS
110	STATISTICAL DATA (Numerical/Quantitative)
120	VIEWPOINTS (Opinion Papers, Position Papers, Essays, etc.)

APPENDIX D: PUBLICATION TYPES AND CODES
(Continued)

CODE	PUBLICATION/DOCUMENT TYPES
	REFERENCE MATERIALS
130	--General
131	--Bibliographies
132	--Directories/Catalogs
133	--Geographic Materials
134	--Vocabularies/Classifications/ Dictionaries/Glossaries
	REPORTS
140	--General
141	--Descriptive (Program/Project Descriptions)
142	--Evaluative/Feasibility
143	--Research/Technical
150	SPEECHES, CONFERENCE PAPERS (Individual) (See also 021)
160	TESTS, EVALUATION INSTRUMENTS
170	TRANSLATIONS
171	MULTILINGUAL/BILINGUAL MATERIALS
999	OTHER/MISCELLANEOUS (Not Classifiable Elsewhere) (Avoid use of this category if at all possible)

APPENDIX E: EDUCATIONAL LEVEL DESCRIPTORS—COMPLETE LIST

ADULT BASIC EDUCATION
ADULT EDUCATION
ADULT PROGRAMS
COLLEGE BOUND STUDENTS
COLLEGE CURRICULUM
COLLEGE FRESHMEN
COLLEGE GRADUATES
COLLEGE INSTRUCTION
COLLEGE PREPARATION
COLLEGE PROGRAMS
COLLEGE SENIORS
COLLEGE STUDENTS
COLLEGES
COMMUNITY COLLEGES
DOCTORAL PROGRAMS
EARLY CHILDHOOD EDUCATION
ELEMENTARY EDUCATION
ELEMENTARY SCHOOL CURRICULUM
ELEMENTARY SCHOOL STUDENTS
ELEMENTARY SCHOOLS
LEMENTARY SECONDARY EDUCATION
EXTERNAL DEGREE PROGRAMS
GRADE 1
GRADE 2
GRADE 3
GRADE 4
GRADE 5
GRADE 6
GRADE 7
GRADE 8
GRADE 9
GRADE 10
GRADE 11
GRADE 12
GRADUATE STUDENTS
GRADUATE STUDY
HIGH SCHOOL EQUIVALENCY PROGRAMS
HIGH SCHOOL FRESHMEN
HIGH SCHOOL GRADUATES
HIGH SCHOOL SENIORS
HIGH SCHOOL STUDENTS
HIGH SCHOOLS
HIGHER EDUCATION
INSERVICE EDUCATION
INTERMEDIATE GRADES
JUNIOR HIGH SCHOOL STUDENTS
JUNIOR HIGH SCHOOLS
KINDERGARTEN
KINDERGARTEN CHILDREN
MASTERS PROGRAMS
MIDDLE SCHOOLS (=Grades 4-9 or some segment thereof)
NONCOLLEGE BOUND STUDENTS
NURSERY SCHOOLS
POSTDOCTORAL EDUCATION
POSTSECONDARY EDUCATION
PRESCHOOL CHILDREN
PRESCHOOL CURRICULUM
PRESCHOOL EDUCATION
PRIMARY EDUCATION
SECONDARY EDUCATION
SECONDARY SCHOOL CURRICULUM
SECONDARY SCHOOL STUDENTS
SECONDARY SCHOOLS
SPECIAL DEGREE PROGRAMS
TWO YEAR COLLEGE STUDENTS
TWO YEAR COLLEGES
UNDERGRADUATE STUDENTS
UNDERGRADUATE STUDY
UNIVERSITIES
UPPER DIVISION COLLEGES

GLOSSARY

ABSTRACT

A brief (usually 200 words or less), tersely-written narrative description of the subject content contained in a larger body of information (e.g., a document). Each citation in RIE includes an abstract, which represents the document.

ACCESSION NUMBER

A number (or number with alpha prefix) assigned sequentially to incoming items to uniquely identify them. Clearinghouses assign a Clearinghouse Accession Number (e.g., TM 000 123) for temporary in-process control. Upon publication in RIE or CIJE, each title is assigned a permanent systemwide accession number (e.g., ED 123 456 or EJ 123 456).

ALPHABETICAL DISPLAY (THESAURUS)

The primary arrangement or format of the Thesaurus of ERIC Descriptors (secondary arrangements are the Rotated Display, the Hierarchical Display, and the Descriptor Group Display). All valid Descriptors (Main Terms), invalid Descriptors ("dead" terms), and USE references appear in this display interfiled alphabetically word-by-word, together with definitions and cross-reference structures.

ANNOTATION

A brief (no more than 50 words) notation of subject content. In the ERIC system annotations are written for journal articles (CIJE accessions) whose titles are not sufficient to adequately convey their content.

AUTHOR INDEX

Found in RIE and CIJE, this index lists personal authors in alphabetical order by last name, with titles of their documents and/or journal articles and the ED or EJ number for each.

BOOLEAN ALGEBRA

A system for symbolizing logical statements by operators, usually AND, OR, and NOT, from which relationships among statements can then be derived mechanically. Boolean Algebra is an algebra of classes and is considered a branch of symbolic logic. The notation permits the expression of conditional statements and statements of fact in symbolic form, and by means of prescribed operations allows arrival at valid conclusions. It is much in use in information retrieval to express the conditions of a computer search. It is named after the mathematician George Boole (1815-1864).

BRIEFSEARCH

A low recall search, performed to get maximum results with little online time, and to retrieve only a few items (either to save money or to survey the file before doing a lengthy search).

BROADER TERM (BT)

A Thesaurus cross-reference used to indicate hierarchical relationships among Descriptors. Broader terms are Descriptors representing conceptual classes that totally contain concepts represented by other Descriptors. For example, MATHEMATICS is considered to be a BT of ALGEBRA. Each BT is an indexable concept and the mandatory reciprocal of a "Narrower Term."

CENTRAL ERIC (CERIC)

The organizational unit within the National Institute of Education (NIE) responsible for the ERIC network, its budgeting, funding, planning, program development, monitoring, policy setting, etc. All ERIC components (e.g., ERIC Facility, EDRS, Clearinghouses, CIJE Publisher, etc.) report to Central ERIC.

CIJE PUBLISHER

Commercial printing organization responsible for publishing CIJE, the ERIC Thesaurus, and annual cumulations of RIE. Oryx Press has been the CIJE publisher since 1979. The previous CIJE publisher was Macmillan Information. (See also "Current Index to Journals in Education (CIJE)", "Macmillan Information", and "Oryx Press")

CLEARINGHOUSE

A contractor within the ERIC network that takes responsibility for the acquisition and processing of materials in one of the major areas of the field of education, e.g., Higher Education, Languages, Tests, etc. ERIC clearinghouses have traditionally been located within non-profit institutions such as universities; the exact number (now at 16) varies with the shifting needs of the educational community.

CLEARINGHOUSE PREFIX

A two-letter code assigned to ERIC clearinghouses for easy identification. The codes are used as prefixes for the temporary clearinghouse accession numbers. The following codes are currently in use: CE, CG, CS, EA, EC, FL, HE, IR, JC, PS, RC, SE, SO, SP, TM, UD. The following codes have been used in the past: AC, AL, EF, EM, LI, RE, TE, VT.

CLEARINGHOUSE SCOPE OF INTEREST GUIDE

A reference tool which describes and defines the specific subject areas of responsibility of each ERIC clearinghouse.

COMPUTER SEARCH

Examination by computer of a database for information on a given topic. Useful for its capacity to derive relationships between sets of terms, using Boolean algebra. (See also "Boolean Algebra" and "Search Strategy")

CONCEPTS (ACTION)

Concepts that identify the action or activity used in a study or educational application. Examples are: instruction, testing, and experiments.

CONCEPTS (CURRICULUM)

Concepts that refer to the educational subject which is being administered, taught, or measured. Examples are: arithmetic, history, learning disabilities, reading, spatial perception, etc.

CONCEPTS (MATERIALS)

Concepts that identify the materials or methodology used in a study or educational application. Examples are: language laboratories, objective tests, and filmstrips.

CONCEPTS (POPULATION)

Concepts that categorize and identify the group or individual studied by a document or intended as the users of the document. Most important to ERIC users are concepts identifying the population's educational (grade/academic) level and age level. However, other categories which may be applicable are occupation, race or nationality, religion, intelligence or ability level, physical or emotional characteristics, socioeconomic characteristics, and sex.

CURRENT AWARENESS SEARCH

See "Selective Dissemination of Information."

CURRENT INDEX TO JOURNALS IN EDUCATION (CIJE)

A paperbound monthly (12 issues per year) index journal that announces journal articles from over 700 education and education-related journals. CIJE is made up of a main entry section, consisting of cataloging and

indexing information and (optionally) 50-word annotations; an index section, consisting of separate subject and author indexes; and a journal contents section arranged by journal name and showing the articles accessioned from each journal issue. Semiannual cumulations are available. Each issue announces approximately 1,700 items and is available on subscription from the CIJE Publisher.

DATABASE

A file of data, usually in machine-readable form. The ERIC database contains the information that is printed in RIE and CIJE, as well as some additional fields that do not appear in print.

DESCRIPTOR

A meaningful conceptual term or short phrase that can be selected from a defined and controlled vocabulary for the purpose of describing/characterizing/indexing the subject content of a document, text, or other data. (See also "Main Term" and "Minor Term")

DESCRIPTOR AND IDENTIFIER USAGE REPORT

A report that provides a complete record of the usage of each index term through the date the report is produced. It consists of an alphabetic array of every index term that has been used, together with a complete list of all accession numbers that have been indexed by the term, and includes a count of how many accessions are listed.

DESCRIPTOR GROUP DISPLAY

One of four arrangements or formats of the Thesaurus of ERIC Descriptors (the others being the Alphabetical Display, the Rotated Display, and the Hierarchical Display). This display arranges each of the Descriptors in the Thesaurus into one (and only one) of 41 broad categories, e.g., "Equipment." The display shows each of these categories together with alphabetic arrays of the terms that have been assigned to each. (See also "Group Codes")

DESCRIPTORS (DEAD/INVALID)

Terms that once were valid Descriptors but that have been deliberately removed from the usable terms in the Thesaurus. Unlike transferred Descriptors, postings for invalid Descriptors remain in the ERIC files. "Dead term" status puts a hold on former Descriptors, preventing their further use in indexing and allowing them to be set aside for examination and possible reindexing at a later date.

DESCRIPTORS (TRANSFERRED)

Former indexable or main terms that have been downgraded to the status of Used For (UF) terms. Former Descriptors displayed as UFs are no longer carried in the ERIC files. Their postings have been transferred to the preferred USE term(s).

DOCUMENT

A generic term referring to any printed form in which a written or graphic work may be produced. Encompasses reports, speeches, journal articles, dissertations, brochures, pamphlets, proceedings, books, and many other bibliographic forms.

DOCUMENT RESUME SECTION

A section of RIE which includes the document resumes, arranged numerically by ED number, and grouped alphabetically by Clearinghouse prefix initials. (See also "Resume")

ED NUMBER

ED stands for ERIC Document. Ed accession numbers identify documents announced in Resources in Education (RIE). They are assigned automatically to documents by the ERIC computer system as one of the last steps in computer processing. Documents are ordered by the public from EDRS by using the ED number.

EDRS

An acronym standing for ERIC Document Reproduction Service. EDRS is the document supply and distribution component of the ERIC network and is responsible for the microfiching of all documents, the handling of standing orders (subscriptions) for microfiche, and the handling of on-demand orders for both microfiche and paper copy. The current contractor is Computer Microfilm International Corporation (P.O. Box 190, Arlington, VA 22210).

EJ NUMBER

EJ stands for ERIC Journal Number. Assigned to journal articles announced in Current Index to Journals in Education. Used for ordering reprints from article reprint sources such as University Microfilms International (UMI). (See also "University Microfilms International")

ERIC

An acronym standing for Educational Resources Information Center. A decentralized network of organizations whose primary goal is bibliographic control over the domestic literature of education. Components are: (1) Central ERIC (the Government sponsor and monitor); (2) ERIC Clearinghouses (16 non-profit contractors); (3) Support Contractors, (a) ERIC Facility--editing, computer processing; (b) ERIC Document Reproduction Service--microfiching, document reproduction; (c) CIJE publisher--commercial publishing.

ERIC PROCESSING AND REFERENCE FACILITY

A centralized information processing facility serving all components of the ERIC network under the policy direction of Central ERIC. It accepts data from the ERIC clearinghouses, edits and keys the data, and builds, maintains, and produces various products from the database. A wide variety of supporting functions are also performed, e.g., acquisitions, lexicography, data conversion, reference, tape distribution, forms control, scheduling, etc. (4833 Rugby Avenue, Suite 301, Bethesda, MD 20814)

ERIC PROCESSING MANUAL

This manual provides detailed rules, guidelines, and examples to be used by the components of the ERIC system in acquiring, selecting, and processing documents and journal articles and updating the ERIC vocabulary.

ERICTAPES

The commercial "brand" name used for the ERIC database in machine-readable form when it is sold to outside user groups. Different files and formats are available from the ERIC Processing and Reference Facility.

ERICTOOLS

The commercial "brand" name used for the ERIC internal reference publications (e.g., Title Index, Source Directory) when they are sold to outside user groups through the ERIC Processing and Reference Facility.

FACET

Term or group of terms which express one aspect of the search topic.

FALSE DROP

A retrieval or "hit" based on an unintended coordination of index terms. Synonymous with "noise."

FREE TEXT

The natural narrative language used by authors in creating the titles of documents and by abstractors in creating the abstracts, annotations, and cataloger's notes pertaining to those documents. The text of such fields is free or uncontrolled in contrast to the Descriptors and Identifiers constituting the controlled indexing vocabulary. Modern computer retrieval systems permit retrieval from either fields controlled by authority lists (such as thesauri) or from free text fields. Since the appearance of a word in free text may or may not have a significant relationship to subject content, searching based on free text tends to retrieve a certain amount of low precision material.

FUGITIVE LITERATURE

Unpublished, limited distribution material that is produced in limited quantities. Examples would be research reports, speeches, presentations, etc. Fugitive material has a tendency to disperse rapidly and to be unavailable within a relatively short time after it is generated. It varies widely in quality. If it is to be made available for the benefit of potential users (other than the small group of initial recipients), it must be captured and put under control by one of the database systems such as ERIC.

GOVERNMENT PRINTING OFFICE (GPO)

The Public Printer responsible for printing and distributing most Federal Government publications, including Resources in Education. (Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402)

GROUP CODES

These 3-digit codes refer to the placement of each Thesaurus Descriptor in one of 41 (52 prior to the 1977-1980 Vocabulary Improvement Project) Descriptor Groups. These groups are broad subject categories that provide an overview of the Thesaurus vocabulary. They can be used for general browsing and searching.

HARD COPY

See "Paper Copy."

HIERARCHICAL DISPLAY

One of four arrangements or formats of the Thesaurus of ERIC Descriptors (the others being the Alphabetical Display, the Rotated Display, and the Descriptor Group Display). This display presents sets of generic tree structures showing, for every Thesaurus Descriptor, the trail of narrower terms below it and broader terms above it, each carried to the farthest extreme.

HIT

A record (in a database) that is retrieved in the course of a search.

IDENTIFIER

Semi-controlled retrieval terms intended to add a depth to indexing that is not always possible with Descriptors alone. An Identifier is usually the name of a specific entity, e.g., project, person, place, organization, test, group, item of equipment, piece of legislation. An Identifier may also be a new concept, under consideration for Descriptor status and awaiting approval for admission to a formally controlled vocabulary or thesaurus.

IDENTIFIER AUTHORITY LIST

A complete list of all approved Identifiers (alphabetical or by category). Available from the ERIC Processing and Reference Facility.

INDEXING

The process of assigning words or terms to documents and journal articles in order to describe their subject content for purposes of subsequent retrieval.

INSTITUTION INDEX

Found in RIE, this index lists document titles under the institution responsible for producing them and under their sponsoring agency when applicable. Arranged in alphabetical order by name of university, agency, association, etc.

JOURNAL ARTICLES

Generic term referring to independent writings appearing in journals and other serial publications, e.g., newsletters.

JOURNAL CONTENTS INDEX

An index in Current Index to Journals in Education (CIJE) that lists alphabetically each journal issue, and the articles within it, covered by that issue of CIJE.

LEVEL DESCRIPTORS

Those descriptors from the Thesaurus which identify the educational level being studied or toward which a document is directed, e.g., Elementary Education, Adult Basic Education, College Programs.

LEVELS (1, 2, and 3)

Documents are announced in RIE at one of three possible levels:

Level 1: documents are available in both microfiche and paper copy from EDRS.

Level 2: documents are available only in microfiche from EDRS.

Level 3: documents are not available from EDRS, but an alternate source of availability is cited in the RIE announcement.

LOGICAL OPERATORS

Symbols between two operands or before the operand which form the "what to do" portion of an operation. Used for exclusion, conjunction, disjunction, or non-equivalence, these operators form the bases of symbolic logic and search strategy in information retrieval systems. OR, AND, and NOT are the most commonly used logical operators in computer searching.

MACMILLAN INFORMATION

The contractor which produced Current Index to Journals in Education from 1969 through February 1979, and continues to make editions from these years available on microfiche (Macmillan Professional and Library Services, 100B Brown Street, Riverside, NJ 08370).

MAIN ENTRY SECTION

A section of CIJE which includes the article annotation, indexing terms, and journal citation. Arranged numerically by EJ number and alphabetically by Clearinghouse prefix initials.

MAJOR TERM

A Descriptor or Identifier representing one of the major concepts contained in a bibliographic citation. Major terms appear in the published subject indexes; all other indexing terms are, by definition, "Minor." In order to restrict the size of published indexes, no more than five (5) major Descriptors and two (2) major Identifiers or six (6) major Descriptors and one (1) major Identifier, may be assigned to any citation. A Descriptor or Identifier is Major or Minor only in the context of the particular citation where it is being used (i.e., it is not inherently major or minor).

MANUAL SEARCH

Examination by hand of the annual, semi-annual, and monthly issues of Resources in Education and Current Index to Journals in Education for information.

MICROFICHE

A 4" by 6" (105mm x 148mm) flat sheet of film, containing reduced images of document pages. ERIC prepares microfiche for all Level 1 and 2 documents announced in RIE, using the COSATI/NMA standard (24X reduction; 98 frames in a 7 x 14 grid). Microfiche may be made of silver, diazo, or vesicular film. A microfiche reader or reader-printer is required to read the page image.

MINOR TERM

A Descriptor or Identifier assigned to a citation and appearing in the printed Resume and in the machine record, but not in the published subject indexes.

NARROWER TERM (NT)

A Thesaurus cross-reference used to indicate hierarchical relationships among Descriptors. Narrower terms represent concepts totally included within a broader conceptual class (represented by another Descriptor). For example, ALGEBRA is considered an NT of MATHEMATICS. Because they are Descriptors, NTs are indexable and searchable. The indexable NT achieves ERIC's goal of "subject-specific" indexing. Its mandatory reciprocal is the "Broader Term."

NATIONAL INSTITUTE OF EDUCATION (NIE)

Created by Congress in 1972 "to help solve or alleviate critical problems in American education", NIE has the responsibility for the conduct of federally-funded educational research. The ERIC system is funded by NIE.

ONLINE

An "online" function is performed with the user in direct contact with the computer, interacting in real time. Contrasted to "offline," where the user submits the job into a queue to be run (and delivered) at some future date.

ORYX PRESS

A commercial printer located in Phoenix, Arizona (2213 North Central at Encanto, 85004). Has been the CIJE and ERIC Thesaurus publisher since 1979. (See also "CIJE Publisher").

PAPER COPY (PC)

A paper reproduction in standard 8½" x 11" format of an original document. All Level 1 documents announced in RIE are available from EDRS in paper copy. (Formerly referred to as "Hard Copy.")

POSTINGS

A postings count in the Thesaurus of ERIC Descriptors and Identifier Authority List indicates the number of times each term has been assigned to documents and journal articles in the database.

PRECISION

Percentage of retrieved items that are relevant to the search topic. A high precision search retrieves much relevant material, but fewer non-relevant items.

PRICE CODE

A code is assigned to an RIE accession that can be translated into its Paper Copy and Microfiche price if purchased from the ERIC Document Reproduction Service (EDRS), e.g., "PC01/MF01". An up-to-date translation table appears in every issue of RIE. By not putting actual prices in its database, ERIC avoids the need to update the entire backfile every time there is a price change.

PUBLICATION TYPE (PUBTYPE)

A data element intended to characterize the form of the document (e.g., journal article, dissertation, speech, etc.), as contrasted to its subject matter. Thirty-five (35) types are distinguished in the present ERIC scheme.

PUBLICATION TYPE INDEX

Found in RIE, this index lists document titles and ED numbers under the publication types (e.g., Descriptive Reports, Directories, or Statistical Data) that have been assigned to them to characterize their form or organization, as contrasted to their subject matter.

RECALL

Percentage of relevant items in the file that are retrieved by the search. A high recall search is formulated when the requestor needs everything on the stated topic.

RELATED TERM (RT)

A Thesaurus cross-reference used to indicate any close conceptual relationship among Descriptors other than the direct class/subclass relationship described by Broader Terms and Narrower Terms. Related terms may be close in meaning, may have the same Broader Term, may be related in usage or application, may have a part-whole relationship, and so on. An RT's reciprocal is another RT.

RESOURCES IN EDUCATION (RIE)

A paperbound monthly (12 issues per year) abstract journal that announces documents dealing with all aspects of education, e.g., research reports, program descriptions, instructional materials, etc. Approximately 15,000 documents are announced annually. RIE consists of a resume section of document abstracts and index sections consisting of separate Subject, Author, Institution, and Publication Type indexes. Paperbound semiannual indexes are printed by GPO, which functions as the printer and subscription agent for RIE. An annual hardbound cumulation of both resumes and indexes is available from the CIJE publisher.

RESUME

A compressed document description including cataloging, indexing, and abstracting data; a surrogate for the document itself. The term resume is used for this concept within the ERIC system; other systems describe their basic record variously as an abstract, digest, precis, brief description, announcement, record, etc.

RETRIEVAL

The process of identifying, locating, and securing information from a database.

RETROSPECTIVE SEARCH

An examination of the entire database for information on a given topic.

ROTATED DISPLAY

One of four arrangements or formats of the Thesaurus of ERIC Descriptors (the others being the Alphabetical Display, the Hierarchical Display, and the Descriptor Group Display). This display provides a permuted alphabetical index of all words that form Thesaurus terms, whether Descriptors or USE references. Complete terms for multi-word Descriptors are entered in alphabetical order by each word in the term.

SCOPE NOTE (SN)

A brief note explaining the intended usage of a Descriptor of Identifier. Used to restrict usage or to clarify concepts that may have alternative meanings. Not intended as formal definitions, Scope Notes indicate how terms are (or should be) used in indexing. Scope Notes appear in the main Alphabetical Display of the Thesaurus.

SEARCH

A systematic attempt to identify documents with some well-defined characteristics. Applies to both manual and computer retrieval efforts. (See also "Computer Search" and "Manual Search")

SEARCH INTERMEDIARY

The person who assists the requestor in defining the search topic through search negotiation, and performs the search online, thereby acting as the link between the search service and the requestor.

SEARCH NEGOTIATION

The method by which the searcher and the requestor discuss and define the topics to be covered in the search; the type, format, cost and amount of information desired; and the purpose for which the material is to be used.

SEARCH SERVICE

Organization such as a library, agency, or state department of education providing online searches to a specified clientele, often for a fee.

SEARCH STRATEGY

The logic of particular inquiry; the demands that a search makes on its potential output. A search strategy is usually exemplified by a series of index terms arranged in groups and interconnected by logical operators, e.g., (DRINKING) AND (ALCOHOLIC BEVERAGES). A record in a data set must meet the specifications of a search strategy in order to be an output of the search. Search strategies may be "tight" and geared for retrieval of a small number of highly relevant items, or they may be "loose" and geared for comprehensive output of anything that even touches on the subject.

SELECTIVE DISSEMINATION OF INFORMATION (SDI)

Alerting organizations or individuals to the existence of documents that deal with their areas of special interest. Usually based on a database or group of databases that are searched on a regular schedule conforming to their update schedule. The search for any one client/user is said to be based on a "profile" of that user.

SET

Any group of things having some characteristic in common, e.g., the set of documents issued by the National Bureau of Standards.

SOURCE JOURNAL INDEX

A list of the journals covered by Current Index to Journals in Education (CIJE). Each journal is identified as to the clearinghouse responsible for it and as to whether it is covered comprehensively or selectively. Clearinghouses nominate additions to the list. The CIJE publisher maintains the list and prints it in each issue of CIJE.

STANDING ORDER CUSTOMERS (SOCs)

Subscribers to the ERIC microfiche collection. Subscriptions are on an annual basis and cost around $2,000 for some 14,500 titles (20,300 individual fiche cards), shipped to subscribers in monthly increments corresponding to the monthly issues of Resources in Education (RIE).

SUBJECT HEADING

In traditional library practice, a member of a controlled vocabulary of alphabetic index terms. Subject Headings tend toward pre-coordination and may be made more specific by "dashed" subdivisions, e.g., World War II--History.

SUBJECT INDEX

Found in RIE and CIJE, this index provides access to documents and journal articles by major descriptors and identifiers.

THESAURUS

A collection of words or terms. In the fields of library/information science, the thesaurus is used to classify, index, store, and retrieve information in a data bank. Thesaurus terms serve as labels; they are keywords or elements that are descriptive of the text or data being indexed. Thesaurus terms may be listed alphabetically, or they may be structured into hierarchies, specialized fields, or other sub-areas. A list of thesaurus terms accompanied by reference citations becomes an index.

THESAURUS OF ERIC DESCRIPTORS

A publication containing the basic vocabulary used by the ERIC system for the indexing of documents and journal articles. It contains approximately 5,000 indexable Main Terms and over 3,000 nonindexable USE references and

"dead" terms. Scope Notes (definitions) or parenthetical qualifiers are provided for all non-obvious terms. Hierarchical and other relationships among terms are indicated by the standard "Narrower Term," "Broader Term," "Related Term" notations. The Thesaurus is maintained and updated by the ERIC Facility, largely on the basis of inputs from the ERIC clearinghouses. It is published as an internal "working copy" by the ERIC Facility (usually annually) and commercially by the CIJE publisher (usually biennially).

UNIVERSITY MICROFILMS INTERNATIONAL (UMI)

An organization in the business for many years of providing bibliographic control and document delivery for dissertations produced by domestic academic institutions, which also makes article reprints available for 65% of the journals indexed in CIJE. (300 North Zeeb Road, Ann Arbor, MI 48106)

USE REFERENCE

The USE reference indicates an equivalent relationship between terms in the Thesaurus. It is used to refer an indexer or searcher from a nonusable (nonindexable) term to the preferred indexable term or terms. Its mandatory reciprocal cross-reference is the UF term. For example, the Thesaurus entry "Manpower, USE LABOR FORCE" necessitates the reciprocal UF MANPOWER under the entry LABOR FORCE.

USED FOR (UF) TERM

A "Used For" term indicates an equivalent relationship between terms in the Thesaurus. The UF reference is a synonym or variant form of a Descriptor and is not used in indexing or searching. Its mandatory reciprocal is the USE reference. For example, the Thesaurus shows FOLKLORE to be a UF under the entry for FOLK CULTURE; therefore, FOLK CULTURE is to be "used for" FOLKLORE.

VENN DIAGRAM

A graphic method employing circles or ellipses to represent relations in logic between classes by the inclusion, exclusion, or intersection of these figures.

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Many of the entries in this Glossary are taken from the ERIC Processing Manual, Appendix B: Glossary of Terms, August 1982, prepared by the ERIC Processing and Reference Facility. Other sources used to find definitions are listed below:

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